



**CONFIDENTIAL**  
**INVENTION DISCLOSURE FORM**

Date: **[REDACTED]**

1. Assigned Numbers: Project No. \_\_\_\_\_ Invention Disclosure No. \_\_\_\_\_  
Law Department File No. 1415  
Outside Patent Counsel Docket No. \_\_\_\_\_

2. Title of Invention: Java Persistence Framework

3. Summary of the Invention:

The Java Persistence Framework is a framework that provides separation of Business and Domain objects, along with an isolation from specific database implementations. The JPF currently provides its capabilities by combining the use of TOPLink and Versant into a single interface.

4. Inventor(s):

- |                 |                  |                  |
|-----------------|------------------|------------------|
| a. Dwayne Smith | c. Keimi Ibitayo | e. Joey Levi     |
| b. James Tucker | d. Scott Terrell | f. Jason Pringle |

5. Earliest written description of the invention (by date and location) (attach a copy):

Sprint, LDD, Technology Services, BITS/NOSM. BTA  
Irving, TX  
**[REDACTED]**

Persistence framework that provides a Java interface to decouple the storage of data from a specific database vendor.

6. Potential commercial use(s) for the invention:

As a persistence framework used by an Enterprise that would like to separate the storage of data from a particular database vendor and/or use two or more database vendors within an application and have a common interface to all databases.

7. Is the invention ready for commercialization? (circle)

Yes

No

If No, describe status of the invention:



8. Has the invention been disclosed or offered to anyone?

(circle)

☒ Yes

☐ No

If Yes: Date(s) Various data between [REDACTED]

It was disclosed for review to several people as part of the internal review process. The reviewers were:

- a. Wayne Lund (Contractor – Anderson Consulting)
- b. David Nunn (Contractor )
- c. Wes Enochs (Contractor )



9. Describe the closest prior art (external and internal)  
(Refer to published literature, patents and internal written information.  
Attach copies if available):

Prior art required either of the following strategies:

- Use the Database vendor calls directly to create, retrieve, update, and delete data.
- Wrap the Database vendor calls with your own APIs that calls the vendor specific APIs to create, retrieve, update, and delete data.
- Most mapping tools including TOPLink support the use of multiple relational databases through the same APIs to create, retrieve, update, and delete data.
- JDBC is an API standard for drivers that allow access to a wide range of SQL databases. This allows applications running on a Java platform to access different databases with the same API call.
- The Java Versant Interface (JVI) is Versant's set of APIs that are use to create, retrieve, update, and delete data.
- Open Database Connectivity (ODBC) allows access to different database languages through the same set of APIs.

10. What advantage(s) does the invention have as compared to the prior art?

- Provides a single interface to perform database manipulation that would otherwise require the 2 more separate interfaces. (i.e. It encapsulates the capabilities of the TOPLink and Versant API into a single interface.)

11. What problem(s) does the invention solve?

- Allows applications to have unique databases. So that if one application uses TOPLink and another uses Versant the programs can use the same APIs calls.
- Gives application developers the ability to code without having to know the specifics of the database they are using.
- Allows for the ability to added another database implementation to the JPF.

12. Please provide a detailed description of the invention:  
(Attach summary technical reports or memoranda, tables, figures, equations, etc.)

See the following attachments:

JPF\_Class\_diagram.doc

Java\_Persistence\_Framework\_Overview.ppt



13. For computer software inventions,

- a. Please provide a flow chart of all software routines. In addition, please provide both a paper copy and a diskette copy (preferably in MS Word format) of the complete source code listing.

Please see the attached Java files:

DatabaseException.java  
DatabaseWrapper.java  
DatabaseWrapperBase.java  
DatabaseWrapperException.java  
DatabaseWrapperTOPLinkImpl.java  
DatabaseObjectFactory.java  
DatabaseObjectFactoryTOPLinkImpl.java  
FactoryException.java  
OptimisticLockException.java  
PersistenceException.java  
ServerSessionHolder.java  
TOPLinkConfigurator.java  
TOPLinkConfiguratorException.java  
TOPLinkConstants.java

- b. If the software is tailored to a specific technical subject matter (e.g., a particular area of chemistry, electronics, aviation, biotechnology, etc.), please provide a detailed description of the pertinent subject matter.

The JPF is tailored to the creation, retrieving, updating and deleting of Java objects in databases without having to know vendor specific APIs.

- c. Are alternative means (e.g. hard wired circuitry) available to accomplish the function of the software? If so, please provide a complete description.

There is no alternative means to accomplish the all of the functionality of the JPF that we know of at this time.

- d. Please provide a description of all hardware (e.g., specific microprocessor, peripherals, etc.) necessary to run this software.

This software can be run on any computer capable of running a Sun Java virtual machine, version 1.1 or higher. A typical configuration is described below:

Intel x86 Architecture Computer  
Microsoft Windows 98 or Windows NT  
Sun JDK or JRE 1.1x or higher installation with the java.exe or jre.exe executables  
Oracle8 Enterprise Edition Release 8.0.5.1.0 - With the Objects option  
TOPLink 2.01



14. Inventor(s): Dwayne Smith \_\_\_\_\_ James Tucker \_\_\_\_\_  
Street Address: 1315 Riverchase Dr #1125 \_\_\_\_\_ 256 E. Corporate Dr. #1315 \_\_\_\_\_  
City, State, Zip: Coppell, TX 75019 \_\_\_\_\_ Lewisville, TX 75067 \_\_\_\_\_  
County: Dallas \_\_\_\_\_ Denton \_\_\_\_\_  
Citizen of: United States \_\_\_\_\_ United States \_\_\_\_\_  
Signature: \_\_\_\_\_  
  
Inventor(s): Kemi Ibitayo \_\_\_\_\_ Scott \_\_\_\_\_  
Terrell \_\_\_\_\_  
Street Address: 1000 E. Ash Lane 801 \_\_\_\_\_ 412 Ridgeway Dr. \_\_\_\_\_  
City, State, Zip: Euless TX, 76039 \_\_\_\_\_ Keller, TX 76248 \_\_\_\_\_  
County: Tarrant \_\_\_\_\_ Tarrant \_\_\_\_\_  
Citizen of: Nigeria \_\_\_\_\_ United States \_\_\_\_\_  
Signature: \_\_\_\_\_  
  
Inventor(s): Joey Levi \_\_\_\_\_ Jason Pringle \_\_\_\_\_  
Street Address: No Longer with Sprint \_\_\_\_\_ Contractor Anderson Consulting \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
County: \_\_\_\_\_  
Citizen of: \_\_\_\_\_  
Signature: \_\_\_\_\_



15. Reviewed and understood by:

Name: Marty Hill \_\_\_\_\_

Philip Issa \_\_\_\_\_

Signature: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_

**Return this form and any attachments to:**

**Timothy A. Nehls, Intellectual Property Administrator**  
**8140 Ward Parkway, 5W**  
**Kansas City, MO 64114**  
**Phone: (913) 624-6885**  
**Fax: (913) 624-6388**  
**Mailstop: MOKCMP0506**  
**E-mail: OpenMail**